

Remarks

In the foregoing claim amendments, claims 8-9, 11-12, 15-18, 20, 22, 26, 30, 33-34, 36-37, 40-43, 45, 47, 52-63 and 77-87 have been amended. Claims 1-7, 13-14, 19, 21, 23-25, 31-32, 38-39, 44, 46, 48-51 and 68-76 have been canceled without prejudice as these claims have been withdrawn from consideration. Applicants reserve the right to pursue the withdrawn claims in a divisional application. No new matter has been added.

Now pending in the application are claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87, of which claims 8, 15, 20, 26, 33, 40 and 45 are independent. In view of the amendments set forth above and the arguments set forth below, Applicants respectfully request reconsideration of the outstanding rejection and passage of the pending claims to allowance.

I. Summary of Rejections

Claims 20-22, 26-30, 45, 47 and 64-67 stand rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §102(b) as being anticipated by WO 03/001891 (hereinafter “Kelly *et al.*”).

These rejections will be discussed separately below.

II. Claim Rejections under 35 U.S.C. §101

Claims 20-22, 26-30, 45, 47 and 64-67 stand rejected under 35 U.S.C. §101 as being drawn to non-statutory subject matter. (See the Office Action, page 2). The Examiner asserts that “the invention does not produce a useful, concrete and tangible result.” (See the Office Action, page 3).

This §101 rejection was originally put forth by the Examiner in the Office Action of March 12, 2007. In the amendment responsive to the Office Action of March 12, 2007, Applicants amended claims 20 and 45 to recite that “the result is saved in a storage element.” In addition, Applicants amended claim 26 to recite that “the expected output is saved in a storage element.” These amendments were argued as evidence that the claims produced a tangible result and hence are directed to statutory subject matter. (See Amendment of August 13, 2007, page 21). The Examiner responded to Applicants’ position in the present Office Action by noting that:

Applicant’s arguments filed 8/13/07 have been fully considered but they are not persuasive. Applicant argues that the amended claims filed 8/13/07 now have the limitation that the result is saved in a storage element thus generating a tangible result. This is not found persuasive because the result stored would not be necessarily be accessible to a user. Outputting or displaying such result to a user may overcome the rejection. Furthermore, step (b) of claim 20, etc. only generate an intangible “result” but not clear what the result is. (Office Action, page 4).

Applicants have amended claims 20, 45 to recite that “the simulation result is displayed on a display,” as suggested by the Examiner. These amendments also clarify what the result is. Applicants have also amended claim 26 to recite that “the expected output is displayed on a display.” Claims 20, 26 and 45 now produce tangible results and are directed to statutory subject matter. Claims 21-22, 27-30, 47 and 64-67, which depend upon one of claims 20, 26 and 45, incorporate the statutory subject matter of claims 20, 26 and 45. For reasons set forth above, Applicants respectfully request that the 35 U.S.C. §101 rejection of claims 20-22, 26-30, 45, 47 and 64-67 be withdrawn.

III. Claim Rejections under 35 U.S.C. §112

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. (See the Office Action, page 4).

A. Claims 15-18, 40-43 and 77-78

The Examiner contends that the specification fails to set forth an adequate disclosure showing what is meant by the means elements recited in claims 15-18, 40-43 and 77-78. (See the Office Action, page 5). Applicants have amended claims 15-18, 40-43 and 77-78 to change the terms “program means” to “instructions.” The instant application describes “instructions” at page 6, lines 15-16. The instant application describes executable code generated from a model throughout the specification, for example, pages 12-13, 22-25 and 36-37. For reasons set forth above, Applicants respectfully request that the 35 U.S.C. §112, first paragraph rejection of claims 15-18, 40-43 and 77-78 be withdrawn.

B. Independent Claims 8, 15, 20, 26, 33, 40 and 45

The Examiner contends that the specification fails to provide support for the feature that “said model is constructed or modified by instructions received through both a graphical user interface and a textual interface,” which was added in the previously filed amendment. (See the Office Action, page 5). In particular, the Examiner contends that the specification fails to provide support for the feature of being “modified by instructions” and “instructions received through both a graphical user interface and a textual interface.” (See the Office Action, page 5).

Applicants have amended claims 8, 15, 20, 26, 33, 40 and 45 to change the term “instructions” to “user commands.” The instant application describes user commands at page 3, lines 5-11, page 9, lines 23-30, page 16, lines 8-13 and original claims 4, 11, 29 and 36. For reasons set forth above, Applicants respectfully request that the 35 U.S.C. §112, first paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

IV. Claim Rejections under 35 U.S.C. §112, Second Paragraph

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. (See the Office Action, page 6). Applicants respectfully traverse the rejection.

A. “Modified”

The Examiner alleges that “it is unclear as to what is meant by the model being ‘modified,’ i.e. unclear whether it means the modeling is constructed by modifying an existing model or it actually means that the model is constructed de novo but with modification.” (See Office Action, page 7). Applicants have amended claims 8, 15, 20, 26, 33, 40 and 45 to change the terms “model is constructed or modified” to “constructed model is modified.” The amended claims now clarify that the constructed model is modified. In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §112, second paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

B. “Instructions”

The Examiner alleges that “it is unclear whether the ‘instructions’ must be computer executable instructions, i.e. computer program, or can be any instructions.” (See Office Action, page 7). Applicants have amended claims 8, 15, 20, 26, 33, 40 and 45 to change the term “instructions” to “user commands” The amended claims now clarify that the constructed model is modified by user commands received through a graphical user interface and a textual interface. In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §112, second paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

C. “Textual Interface”

The Examiner further alleges that “it is unclear whether the graphical interface and the textual interface are mutually exclusive or one can also be the other.” (See Office Action, page 7). Applicants have amended claims 8, 15, 20, 26, 33, 40 and 45 to clarify that the textual interface “is separate from the graphical user interface.” The amended claims now clarify that the textual interface is separate from the graphical user interface. In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §112, second paragraph rejection of claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 be withdrawn.

V. Claim Rejections under 35 U.S.C. §102

Claims 8-12, 15-18, 20, 22, 26-30, 33-37, 40-43, 45, 47, 52-67 and 77-87 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kelly *et al.* (See the Office Action, page 8). Applicants respectfully traverse the rejection.

A. Claims 8, 15, 20, 26, 33, 40 and 45

Applicants respectfully submit that Kelly *et al.* fails to disclose at least the following feature of claims 8, 15, 20, 33, 40 and 45: ***the constructed model is modified by user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface***, and the following feature of claim 26: ***the constructed model being modified by user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface***.

Claims 8, 15, 20, 33, 40 and 45 require both a graphical user interface and a textual interface. Thus, with the claimed subject matter of claims 8, 15, 20, 33, 40 and 45 a user has a choice of using the type of interface with which the user is most comfortable. The user may enter commands to modify the constructed model using either type of interface. As will be explained in more detail below, this is in contrast to the prior art. Conventional systems, at best, provide a single type of interface.

In the Office Action, the Examiner contends:

Firstly, Kelly et al. state on page 11 that their “model can be modified to reflect.... The regions of interface can, for example, include” This indicates that their model can be identified and interface is used. (Office Action, page 9).

At page 11, which is referred to by the Examiner, Kelly *et al.* recites:

In another embodiment, the adaptive immune response model can be modified to reflect the nature of APCs and lymphocytes that associated with a biological state. The regions of interface can, for example, include modulation of antigen-presenting cell function by the peripheral tissue and modulation of the peripheral tissue by the antigen-presenting cells and the antigen-specific lymphocytes.

In the above quoted portion, Kelly *et al.* merely discloses that a model can be modified. Kelly *et al.*, however, does not disclose that the model is modified by the user commands received through both a graphical user interface and a textual interface that is separate from the graphical user interface. There is no disclosure in Kelly *et al.* of using both a graphical user interface and a textual interface to modify a model.

The Examiner also contends:

Secondly, Kelly et al. disclose that the computer system used for their modeling comprises a video display on which a user interface is displayed, which is interpreted as a graphical interface, and a network interface, which is interpreted as a textual interface, given the indefiniteness for the terms graphical interface and textual interface and the entire limitation set forth above in the rejection under 35 USC 112, second paragraph above. (Office Action, page 9).

The Examiner interpreted that the video display (108) and the network interface (118) disclosed in Kelly *et al.* correspond to a graphical user interface and a textual interface, which are recited in claims 8, 15, 20, 26, 33, 40 and 45, respectively. Applicants respectfully disagree.

With regard to the video display (108), Kelly *et al.* discloses that:

The computer system 100 can further include a video display unit 108 (e. g. , a liquid crystal display (LCD) or cathode ray tube (CRT)) on which a user interface can be displayed. (Page 12, line 31 through page 13, line 2).

In the above portion, Kelly *et al.* discloses that a user interface can be displayed on the video display (108). Kelly *et al.*, however, does not disclose whether the user interface is a graphical user interface or a textual interface. Kelly *et al.* is completely silent about a graphical user interface and a textual interface. Kelly *et al.* does not disclose using both a graphical user interface and a textual interface to modify a model.

With regard to the network interface device (118), Kelly *et al.* discloses that “[t]he software 120 can also be transmitted or received via the network interface device 118.” (See Kelly *et al.*, page 13, lines 7-8). Kelly *et al.*, however, does not disclose that the network interface device (118) is used to receive user commands to modify a model. The network interface device (118) disclosed in Kelly *et al.* cannot be interpreted as a textual interface that receives user commands to modify a model.

The Examiner further contends that:

Considering Kelly *et al.* disclose that their model can be executed by computer-executable software code representing dynamic biological processes including adaptive immune response (see page 8), it would be readily apparent to one skilled in the art that the model can be constructed or modified by receiving computer executable instructions received through the graphical and textual interfaces. (Office Action, page 9).

The Examiner relies on Kelly *et al.* for the feature that a computer model is executed by computer-executable software code. The Examiner then contends that modifying a computer model using a graphical user interface and a textual interface is apparent to one skilled in the art. Applicants submit that the feature that a computer model is executed by computer-executable software code does not necessarily make it apparent to one skilled in the art to modify the model using both a graphical user interface and a textual interface. The Examiner’s contention is based on subjective reasoning. No prior art references disclose that a computer model is modified using both a graphical user interface and a textual interface.

In view of reasons set forth above, Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 8, 15, 20, 26, 33, 40 and 45 be withdrawn.

B. Claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87

Claims 9-12 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 9-12 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 9-12.

Claims 16-18 depend on base claim 15 and, as such, incorporate all of the features of claim 15. Accordingly, claims 16-18 are novel for at least the reasons set forth above with respect to claim 15. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 16-18.

Claim 22 depends on base claim 20 and, as such, incorporates all of the features of claim 20. Accordingly, claim 22 is novel for at least the reasons set forth above with respect to claim 20. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claim 22 be withdrawn.

Claims 27-30 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 27-30 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 27-30 be withdrawn.

Claims 34-37 depend on base claim 33 and, as such, incorporate all of the features of claim 33. Accordingly, claims 34-37 are novel for at least the reasons set forth above with respect to claim 33. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 34-37 be withdrawn.

Claims 41-43 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 41-43 are novel for at least the reasons set forth above with

respect to claim 40. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 41-43 be withdrawn.

Claim 47 depends on base claim 45 and, as such, incorporates all of the features of claim 45. Accordingly, claim 47 is novel for at least the reasons set forth above with respect to claim 45. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claim 47 be withdrawn.

Claims 52-63 depend on base claim 8 and, as such, incorporate all of the features of claim 8. Accordingly, claims 52-63 are novel for at least the reasons set forth above with respect to claim 8. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 53-63 be withdrawn.

Claims 64-67 depend on base claim 26 and, as such, incorporate all of the features of claim 26. Accordingly, claims 64-67 are novel for at least the reasons set forth above with respect to claim 26. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 64-67 be withdrawn.

Claims 77-87 depend on base claim 40 and, as such, incorporate all of the features of claim 40. Accordingly, claims 77-87 are novel for at least the reasons set forth above with respect to claim 40. Applicants respectfully request that the 35 U.S.C. §102(b) rejection of claims 77-87 be withdrawn.

Furthermore, Applicants respectfully submit that Kelly *et al.* does not disclose “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77. There is no disclosure in Kelly *et al.* of “annotating the model to add user-provided annotations,” as recited in claims 52, 64 and 77.

Furthermore, Applicants respectfully submit that Kelly *et al.* does not disclose “automatically connecting elements of the model,” as recited in claims 53, 65 and 78. There is no disclosure in Kelly *et al.* of “automatically connecting elements of the model,” as recited in claims 53, 65 and 78.

As such, Applicants request that the rejection of claims 9-12, 16-18, 22, 27-30, 34-37, 41-43, 47, 52-67 and 77-87 be withdrawn.

VI. Conclusion

In view of the above comments, Applicants believe that the pending application is in condition for allowance and urges the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-108. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: January 30, 2007

Respectfully submitted,

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